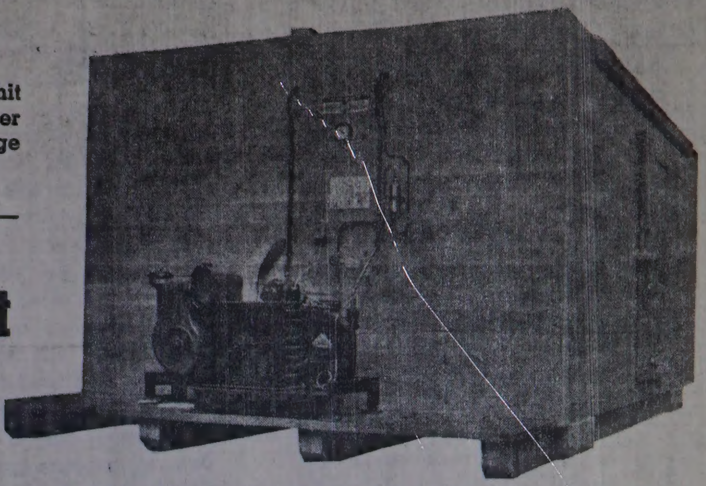
portable refrigeration unit is pushed up Yukon river mounted on barge

Getting fresh meat to Dawson City



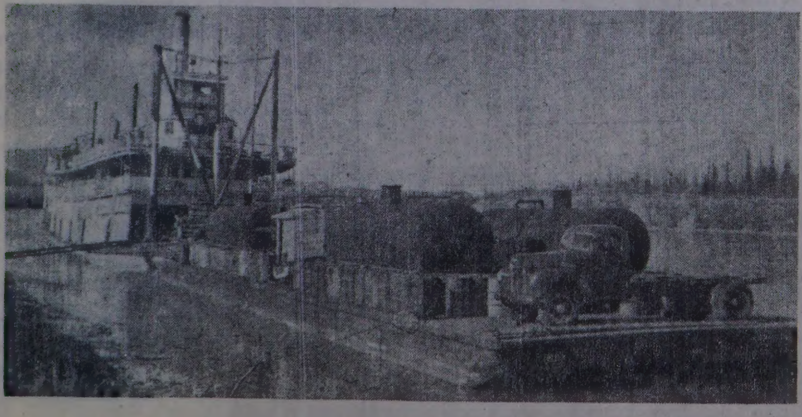
Portable refrigerated cooler, loaded with ten tons of meat, is pushed up the Yukon River on a barge.

OVER a route that extends farther than from Halifax to Fort William or from Victoria to Winnipeg, fresh meat is transported by steamer, freight and barge to Dawson City, Yukon, from Vancouver. While the natives of that Klondike gold-rush town have been receiving meat in some form or other since the late '90's, it was only in 1949 that the best method of carrying perishables was put into operation on the last stage of the trip from Whitehorse to Dawson City.

A portable refrigerated walk in cooler pushed on a barge up the Yukon River now carries the fresh meat on the last lap of its long trip. The British Yukon Navigation Company Ltd., which carries an assorted cargo to the Klondike on its barges, had the 10 ton unit especially made in Vancouver. Manufactured by Alex Gair, the refrigeration equipment was installed by Universal Sales and Service Ltd.

Used by the carrying company called the White Pass and Yukon Route, the barge is operated in the limited navigation season of from June to September. The advantage of the portable unit is its availability for handling on any barge and by any steamer to suit the dates of arrival of meats at Whitehorse. Sternwheel river steamers are used for the job.

The cooler, which will carry mostly frozen beef, is equipped with a Universal Cooler condensing unit and a water defrost coil. Temperature is maintained at zero to 10 degrees. Dimensions of the box are length 17'6", width 11'6" and heighth 8'. A Wisconsin gas engine drives a jackshaft which in turn drives the compressor and a 115 volt D.C. Generator. The generator is used to supply electricity for the fan motor on the water defrost coil.



Barges of the White Pass & Yukon Route carry a variety of cargo including vehicles, lumber, gasoline, diesel oils, foods and practically any bulky material.

An Old-Timer Tell Us About the Old Days

W. D. MacBride, who has lived in the north country for 38 years, tells us about the great improvements in getting fresh meat to Dawson City.

"All pioneer countries have a real problem on their hands with respect to the importation of fresh meats and perishable products. When someone discovers gold, as was the case in the Klondike in 1896, there is the consequent mushroom growth of population. Dawson City, in the Yukon territory, is a good example of this. Transportation companies have had a real job delivering perishable products to Dawson City in good shape. In a gold rush town, boys and girls 'in the money' are all looking for T-Bones, Capons, etc., and the sky is the limit.

In those days a herd of cattle was driven over the 'Dalton Trail' from Haines, Alaska, to Dawson City and the surviving members of the herd were sold 'on the hoof' for $1.25 per pound, probably pretty tough meat. Cattle have been shipped from Vancouver to Whitehorse and driven over our 'Overland Trail' to Dawson City and Mayo, to be slaughtered there. For many years live cattle, sheep, hogs, and various forms of poultry were shipped from Vancouver to Whitehorse, thence on barges to Daw-

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of the system. For instance, the fluorescent oil could not been seen if the leak is at a point between the compressor and a closely placed wall, where the rays could not strike and even if they could, the result could not be observed.

Under ultra-violet light you can notice the striking blue color of fluorescent refrigeration oils. This color can be seen even if there is only a needle point of oil present.

On the other hand, with a non-fluorescent oil, no ultra-violet light, no matter how intense, will produce the tell-tale color to locate the leak.

In the work we have done on this project we have learned that it is possible to add a dye to the non-fluorescent oil. The effective use of such a dye will of course depend upon whether it would tend to introduce any moisture or corrosion into the system, or to cause a plating action. Reliable authorities tell us there are available dyes which do not create these conditions.

In introducing a dye into this non-fluorescent oil, the resulting mixture creates a brilliant fluorescent color that is readily seen. This is indicative of the job that can be done by oil manufacturers if the objective is warranted and they are so inclined. In fact I wish to put the matter in stronger terms. Would it not be a valuable contribution to the industry if oil manufacturers would produce only vividly fluorescent oil? We would like to see this, of course, for it would mean a much greater demand for our equipment. But looking at it from a broader point of view, wouldn't this make it much easier for the service man to locate a leak? On this subject, let me quote from a letter received from the Chief Engineer of a major manufacturer of refrigerators:

QUOTE "Black light does its best job on the small leaks which are too small to be readily detected by any other means than the very expensive and not readily portable General Electric electronic instrument.

"In other words, where there is a small leak in a job which will cause enough refrigerant to leak out within a period of a week or two or even longer and which is almost impossible to detect by any means requiring an immediate test, black light comes into play because the system can be cleaned thoroughly with mineral spirits or carbon tet and left for a period of a week or two before being tested by black light. Upon returning to the job, the service man has but to seek a seepage of oil around any of the most likely lines, etc., with the black light, and he has found his leak without any further difficulty. On a new installation, it is also possible to follow the same procedure and to go over the job with black light immediately after cleaning." UNQUOTE

A long-wave type of lamp, efficient at 3660 angstrum units, is more effective for fluorescence of oil, as you can see. Furthermore, there is no sun-burning quality to this wave length.

There has also been brought up the question concerning the distinction between the oil at the leak and the oil that accumulates on the outside of the system. I really don't think this is a serious deterrent to the use of ultra-violet light. In the petroleum industry, geologists know that oil samples lose their fluorescent quality when the samples dry. For that reason samples are kept in air-tight containers or in refrigerators until they can be examined. This prevents the gases from evaporating, which causes the loss of fluorescence.

Our observations are that there is a distinct difference in the fluorescent color response between fresh oil coming from a leak, which normally is a bright blue color, and the old oil accumulated on the outside of the lines, which generally has a brown fluorescent color.

These lamps were designed primarily for their handiness in use, both in the shop and field. For the first time, also, a long-wave light is available for battery operation, which provides maximum portability and effective use. Such battery use may be of real help on some jobs.

Final points in favor of this method of leak detection are that it is perfectly safe and is not affected in any way by the presence of a lot of gas in the room. It has no effect on the gas, nor does the gas effect the ultra-violet light, which simply locates the oil seeping from the point of leakage.

DAWSON CITY

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son City. Some of these barges were "two deckers", cattle on the main deck, sheep, hogs and chickens on the top deck. When around the dock at Whitehorse in the spring of 1914 I can recall 'Indian Longshoremen' calling the cattle 'Cheechaco Moose'.

In later years the meats for Dawson City were shipped 'frozen' from Vancouver to Skagway, a four-day trip in cold storage, transferred on arrival at Skagway to 'Iced Refrigerator cars', sent over the White Pass Railroad to Whitehorse, then loaded on the front end of Yukon River barges, with local ice, covered with canvas tarpaulins and sent on the way. With the introduction of artificial ice, some of this product would be placed inside the canvas covering with the meats to assist in safe arrival at Dawson City. The Dawson City Meat Dealers had cold storage facilities. For many years a Company known as 'The Pacific Cold Storage' operated steamers and barges on the Yukon River for the carriage of meats to Alaska and the Yukon territory.

In the spring of 1949 the British Yukon Navigation Company, who now operate steamers and barges on the Yukon River, and a fleet of busses, freight refrigerator trucks and oil tankers on the Alaska Highway, purchased its 10 ton portable refrigerator unit from the Universal Sales & Service Limited, Vancouver. This unit has been highly successful and the T-Bones and Capons are landing in Dawson City just as they came from Vancouver.

So the transportation companies' endeavour to keep pace with modern improvements has given the good people of the north a little change in their diet from moose and caribou."

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